

**AMENDMENTS TO THE CLAIMS**

This listing of claims will replace all prior versions, and listings, of claims in the application.

**Listing of Claims**

1-8. (Cancelled)

9. (Currently Amended) A polymer composition, comprising: a photodefinaible polymer including a thermally decomposable sacrificial polymer and a photoinitiator, wherein the photoinitiator is selected from, ~~bis(2,4,6-trimethylbenzoyl)-phenylphosphineoxide and 2-benzyl-2-dimethylamino-1-(4-morpholinophenyl)-butanone-1.~~

10-13. (Cancelled)

14. (Previously Presented) A method for fabricating a structure comprising:

disposing a photodefinaible polymer composition onto a surface, wherein the photodefinaible polymer includes a sacrificial polymer and a photoinitiator;

disposing a gray scale photomask onto the photodefinaible polymer, wherein the gray scale photomask encodes an optical density profile defining a three-dimensional structure to be formed from the photodefinaible polymer;

exposing the photodefinaible polymer through the gray scale photomask to optical energy;

removing portions of the photodefinaible polymer composition to form the three-dimensional structure;

disposing an overcoat layer onto the three-dimensional structure; and

decomposing the photodefinaible polymer composition, thermally, to form a three-dimensional air-region.

15. (Original) The method of claim 14, wherein decomposing includes:

maintaining a constant rate of decomposition as a function of time.

16. (Original) The method of claim 14, wherein decomposing includes:

maintaining a constant rate of mass loss of the photodefinable polymer.

17. (Original) The method of claim 14, wherein decomposing includes:

heating the structure according to the thermal decomposition profile expression

$$T = \frac{E_a}{R} \left[ \ln \frac{A(l - rt)}{r} \right]^{-1}$$

where  $R$  is the universal gas constant,  $t$  is time,  $n$  is the overall order of decomposition reaction,  $r$  is the desired polymer decomposition rate,  $A$  is the Arrhenius pre-exponential factor, and  $E_a$  is the activation energy of the decomposition reaction.

18-19. (Cancelled)

20. (Original) A structure, comprising the three-dimensional air-region formed using the method of claim 14.

21. (Original) A structure, comprising the three-dimensional air-region formed using the method of claim 15.

22. (Original) A structure, comprising the three-dimensional air-region formed using the method of claim 17.

23-27. (Cancelled)